

CLAIMS

1. A method in a radio access network (3) of handling the mobility of a multimedia service joined mobile terminal (7) in a cell group location state, in which state the location of the mobile terminal is stored at cell group level in a context of a radio network controller (4a, 4b, 4c) functioning as a serving radio network controller (SRNC) for the mobile terminal, **characterised in that** an information transfer is performed at a first trigger event via an Iur-interface (8a, 8b) between said serving radio network controller (SRNC) and all radio network controllers controlling at least one cell (6a-h) in a first cell group and being potential drift radio network controllers (DRNCs) for the mobile terminal (7), wherein said information transfer comprises the following steps:
 - the SRNC sending (32) a multimedia service attach requesting message to said potential DRNCs, said multimedia service attach requesting message comprising context information for said mobile terminal, said context information including multimedia service information, and
 - the potential DRNCs creating and storing a context for said mobile terminal based on the received message (34).
- 25 2. A method according to claim 1, **characterised in that** said transferred context information comprises the identity of the joined multimedia service, the identity of the cell group, the temporary identity of the mobile terminal within the network, and the identity of the mobile terminal.
- 30 3. A method according to claim 1 or 2, **characterised in that** the SRNC and the potential DRNCs will send a multimedia session start notification based on the transferred context information when a multimedia session start notification is received from a core network (1).

4. A method according to any of the claims 1 - 3, **characterised in that** said trigger event is the SRNC receiving a cell group updating message from the mobile terminal.

5

5. A method according to claim 4, **characterised by** the following further steps:

- sending a multimedia service detach requesting message from the SRNC to all potential DRNCs in the previous cell group (525), if the new cell group comprises only cells controlled by new RNCs,
- the potential DRNCs in the previous cell group deleting the stored context of the mobile terminal (530).

10 15 6. A method according to any of the preceding claims, **characterised in that** said trigger event is the mobile terminal transiting into said cell group location state from any other state.

20 7. A method according to any of the preceding claims, **characterised in that** said trigger event is the SRNC receiving a notification from the core network of a start of a multimedia service session.

25 8. A method according to any of the preceding claims, **characterised in that** each of the potential DRNCs creates and stores a multimedia service context (38) in case no other multimedia service joined mobile terminal is located in the cells controlled by each potential DRNC.

30

9. A method according to any of the preceding claims, **characterised in that** said multimedia service context comprises the identity of the multimedia service and the temporary identity of the mobile terminal within the radio access network (3).

35

10. A method according to any of the preceding claims,
characterised in that a counting procedure (430) is performed
for each cell before a PTM/PTP decision (440) by radio
5 network controllers functioning as Controlling Radio Network
Controllers (CRNCs).

11. A method according to claim 10, **characterised in that** said
counting procedure (430) is performed by paging each mobile
10 terminal in the cell group location state individually by
means of the stored context information.

12. A method according to claim 10, **characterised in that** said
counting procedure (430) is performed by including a cell
15 group location specific paging information comprising a
probability factor in a broadcasted multimedia service
session start notification.

13. A method according to claim 10, **characterised in that** said
counting procedure (430) is performed by estimating a
20 probability factor for the mobile terminals of each cell.

14. A method according to any of the preceding claim, wherein
said first cell group consists of a UTRAN Registration Area
25 (URA) according to the 3GPP standard.

15. A method according to any of the preceding claims, wherein
said cell group location state is a URA_PCH state according
to the 3GPP standard.

30
16. A method according to any of the preceding claims, wherein
said multimedia service is a Multimedia
Broadcasting/Multicasting Service (MBMS), according to the
3GPP standard.

17. A method according to any of the preceding claims, wherein said multimedia service attach requesting message is an MBMS ATTACH REQUEST, according to the 3GPP standard.

5 18. A radio network controller (4a, 4b, 4c) in a radio access network (3) functioning as a serving radio network controller (SRNC) for a multimedia service joined mobile terminal (7) in a cell group location state and provided with stored context information for said mobile terminal, said serving radio network controller being arranged to communicate with other radio network controllers via an Iur interface (8a, 8b), **characterized by** means for performing an information transfer of a multimedia service attach requesting message comprising said context information at a trigger event to all other 10 radio network controller controlling at least one cell (6a-h) within the cell group of the mobile terminal and being potential drift radio network controllers (DRNCs) for said 15 mobile terminal.

20 19. A radio network controller according to claim 18, **characterised in that** said context information comprises the identity of the joined multimedia service, the identity of the cell group, the temporary identity of the mobile terminal within the network, and the identity of the mobile terminal.

25 20. A radio network controller according to claim 18 or 19, **characterized by** means for sending a multimedia session detach requesting message to all potential DRNCs in the previous cell group upon receiving a cell group updating message from the mobile terminal and the new cell group only consist of cells controlled by new RNCs.

30 35 21. A radio network controller (4a, 4b, 4c) in a radio access network (3) being a potential drift radio network controller (DRNCs) for a multimedia service joined mobile terminal (7) in a cell group location state, said radio network controller

arranged to communicate with other radio network controllers via an Iur interface (8a, 8b), **characterized by** means for receiving an information transfer of a multimedia service attach requesting message comprising context information for the mobile terminal from a radio network controller functioning as a serving radio network controller (SRNC), according to any of claims 18-20, for said mobile terminal, and means for creating and storing context information for the mobile terminal using the received message.

10

22. A radio network controller according to claim 21, **characterised in that** said context information comprises the identity of the joined multimedia service, the identity of the cell group, the temporary identity of the mobile terminal within the network, and the identity of the mobile terminal.

23. A radio network controller according to claims 21 or 22, **characterized by** means for sending a multimedia service session start notification to said mobile terminal based on said stored context information when a multimedia session start notification is received from a core network (1).

24. A radio network controller according to claims 21-23, **characterized by** means for creating and storing a multimedia service context in case no other multimedia service joined mobile terminal is located in the cells controlled by the radio network controller.

25. A radio network controller according to claim 24, **characterized in** that said multimedia service context comprises the identity of the multimedia service and the temporary identity of the mobile terminal within the radio network.

35 26. A radio network controller (4a, 4b, 4c) according to any of the claims 18 - 25, further provided with means for

functioning as a Controlling radio network controller (CRNC), **characterized by** means for performing a counting procedure before making a PTP/PTM decision for a cell.

5 27. A radio network controller according to claim 26, **characterised by** means for performing said counting procedure by paging each mobile terminal in the cell group location state individually by means of the stored context information.

10

28. A radio network controller according to claim 26, **characterised by** means for performing said counting procedure by including a cell group location specific paging information comprising a probability factor in a broadcasted multimedia service session start notification.

15 29. A radio network controller according to claim 26, **characterised by** means for performing said counting procedure by estimating a probability factor for the mobile terminals of each cell.

20 30. A radio network controller according to any of the claims 18-29, wherein said first cell group consists of a UTRAN Registration Area (URA) according to the 3GPP standard.

25

31. A radio network controller according to any of the claims 18-30, wherein said cell group location state is a URA_PCH state according to the 3GPP standard.

30 32. A radio network controller according to any of the claims 18-31, wherein said multimedia service is a Multimedia Broadcasting/Multicasting Service (MBMS), according to the 3GPP standard.

35 33. A radio network controller according to any of the claims 18-32, wherein said multimedia service attach requesting message

is an MBMS ATTACH REQUEST, according to the 3GPP standard.